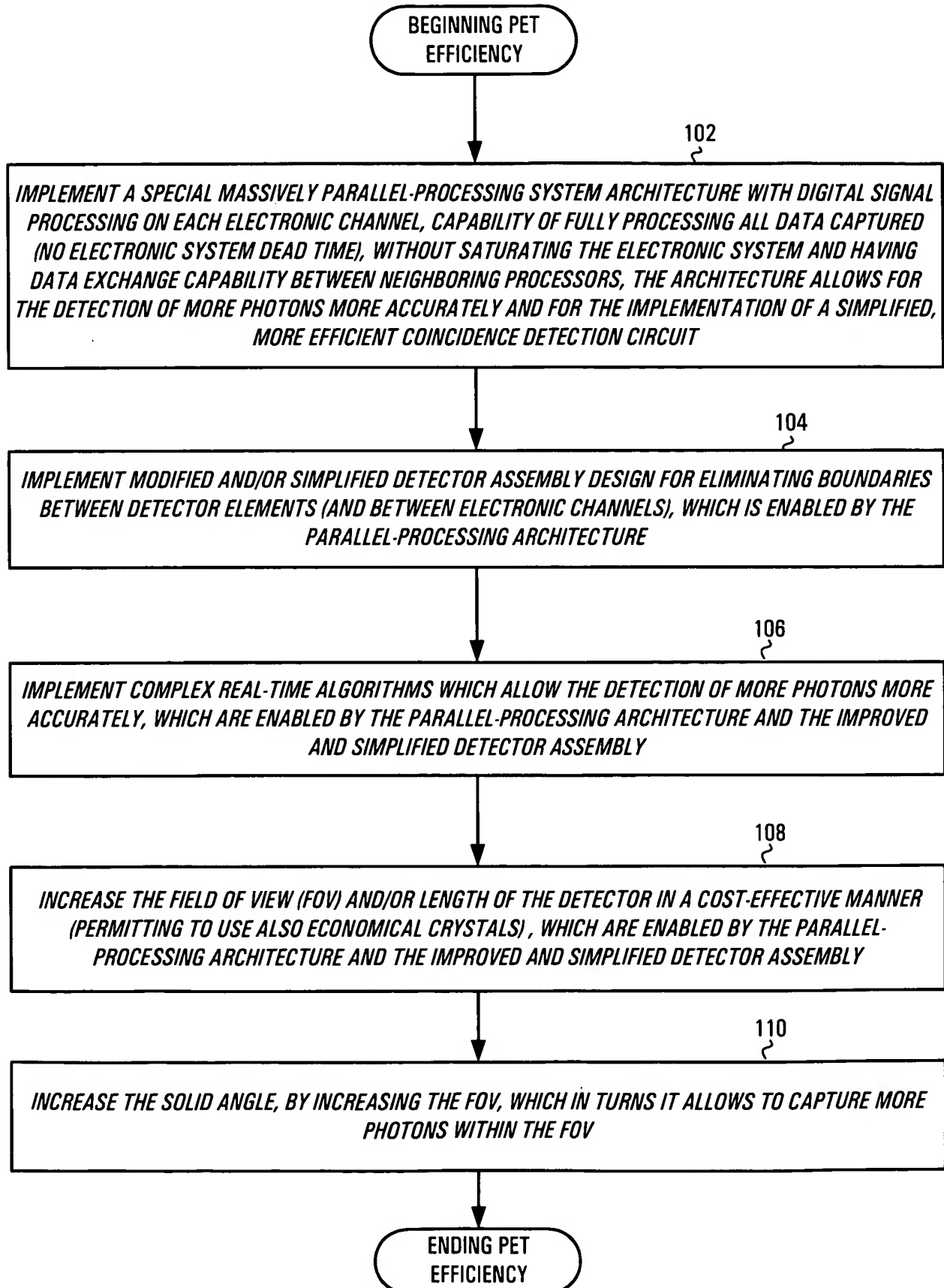


FIG. 1



PRIOR ART PET with SHORT FOV

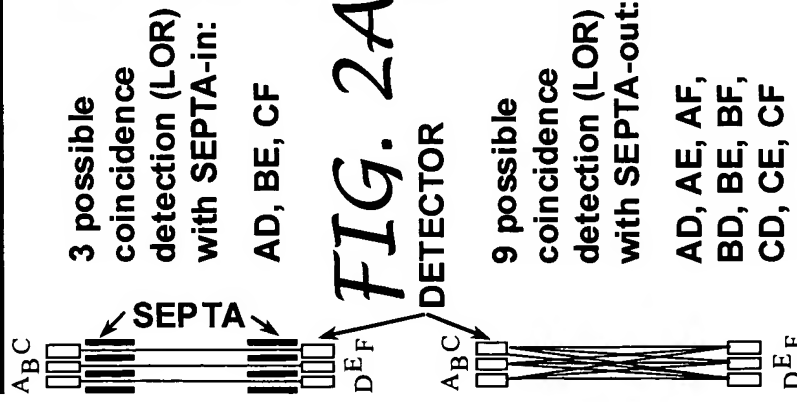


FIG. 2A

INCREASING THE FOV

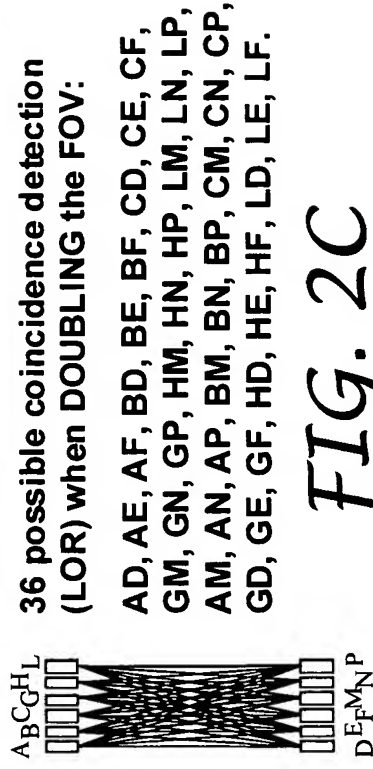


FIG. 2C

81 possible coincidence detection (LOR) when the FOV is three times in length.

The 3D-CBS, with over 1 meter FOV, has the capability to capture in 3-D hundreds of times the number of LORs that can capture the current PET when is used in 2-D mode. The limit for each location of the body is about $\pm 45^\circ$ the angle with a ring (or $\text{TOF}_1 - \text{TOF}_2 < \text{time window}$)

FIG. 2D

FIG. 2B

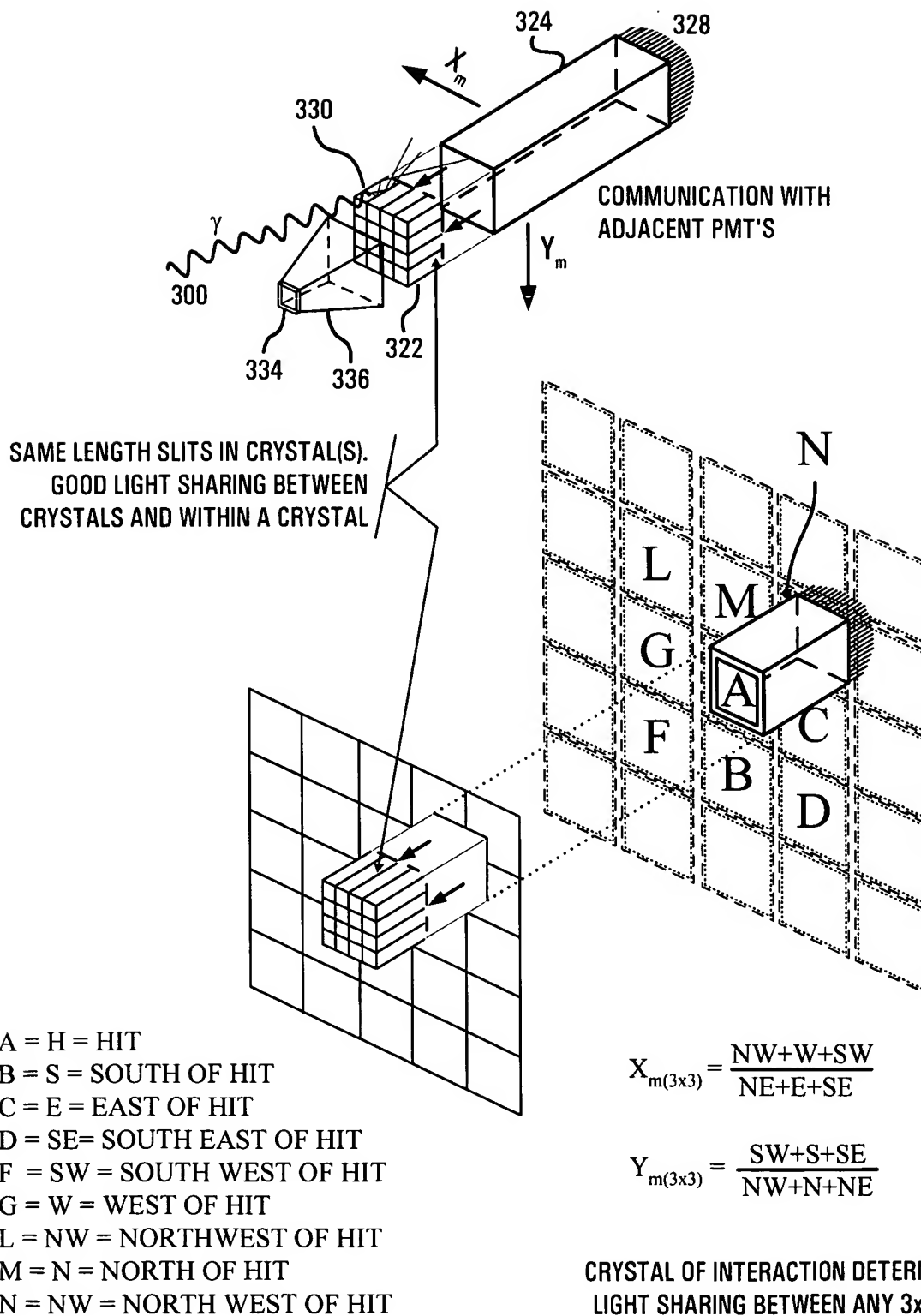


FIG. 3B

FIG. 4A

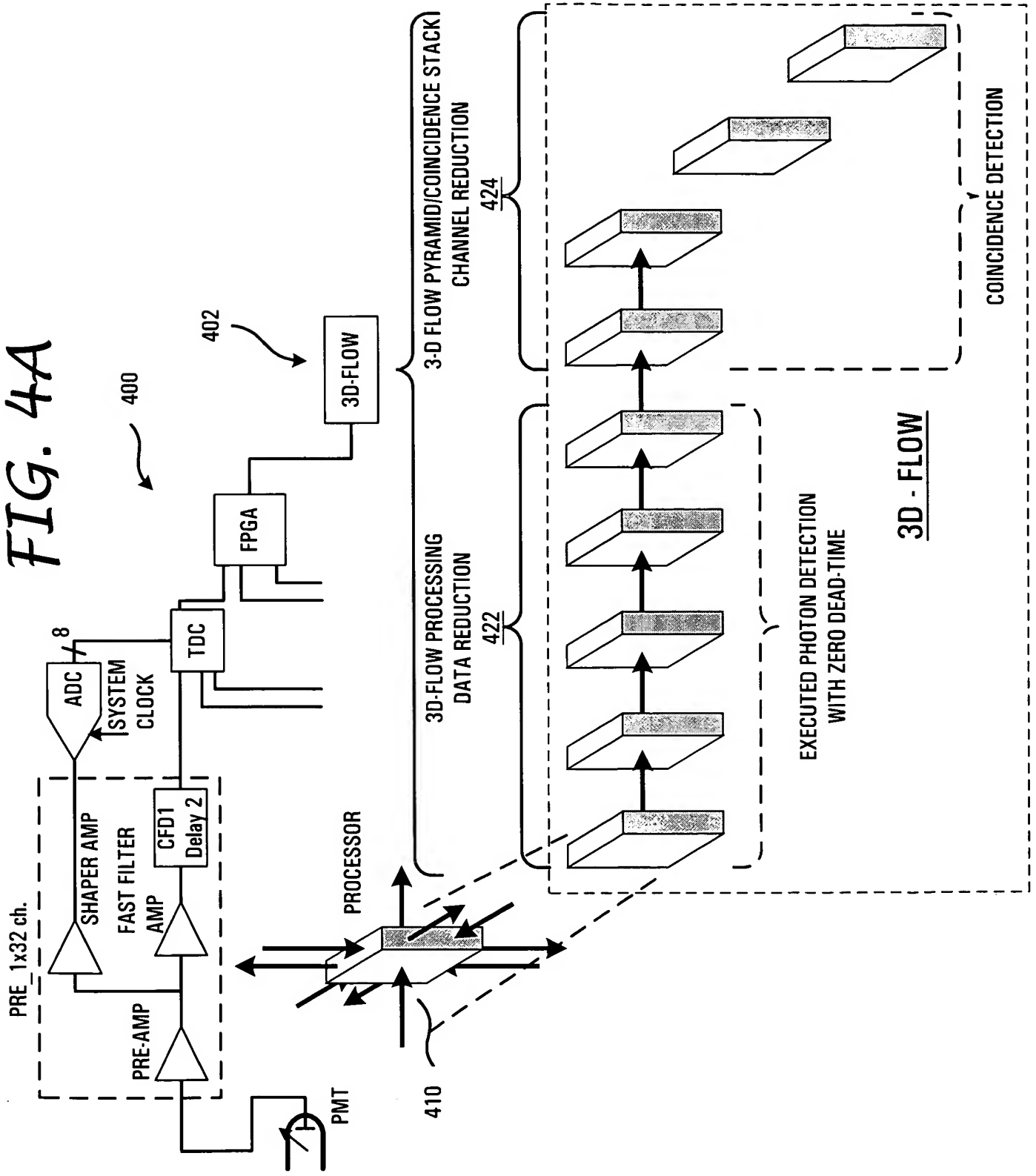


FIG. 4C

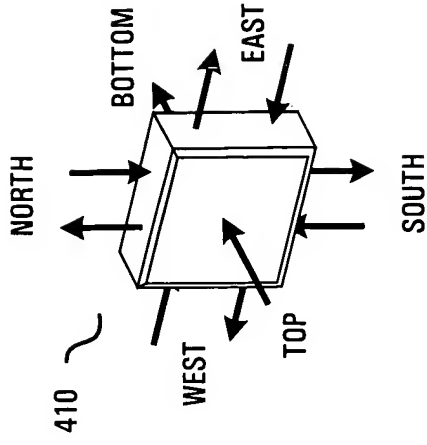
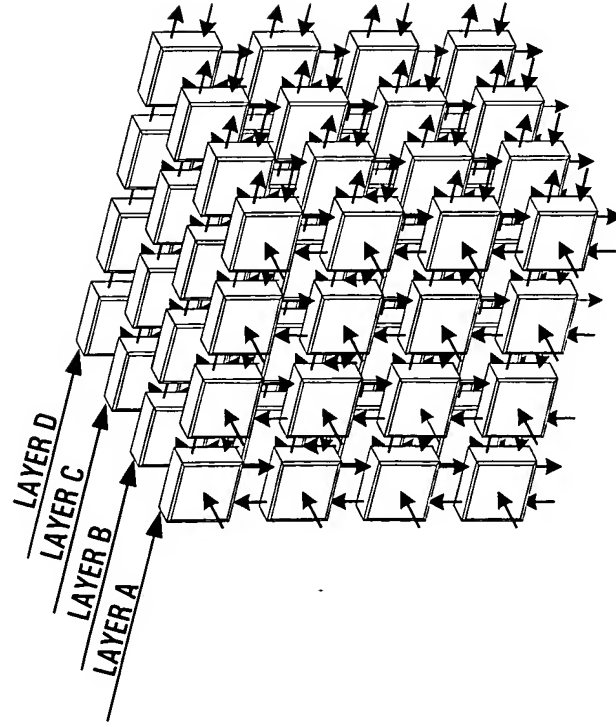


FIG. 4B

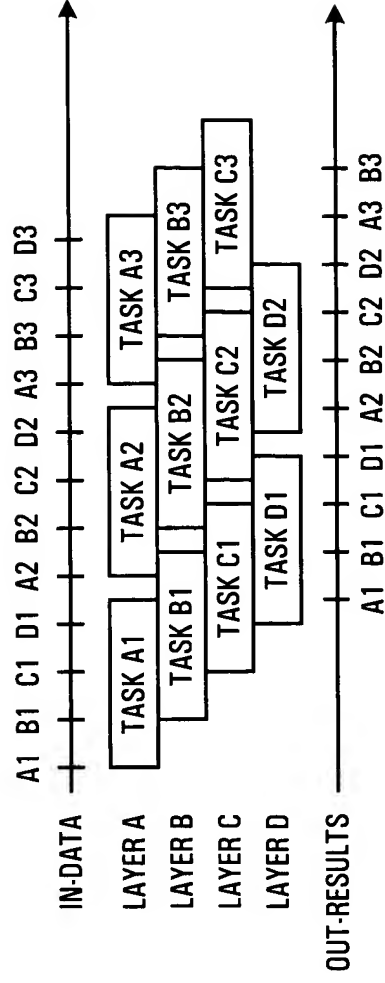


FIG. 4D

FIG. 5

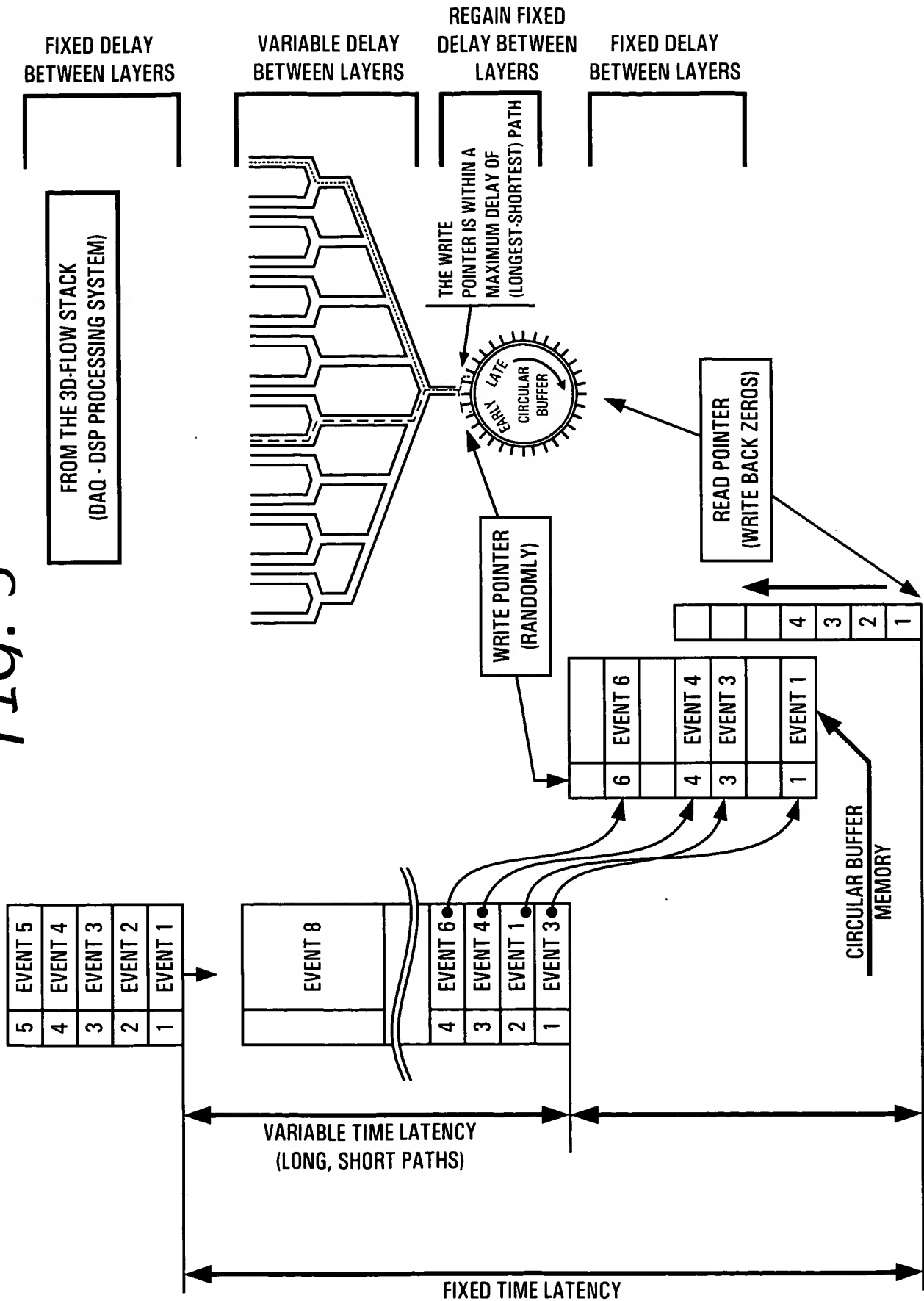
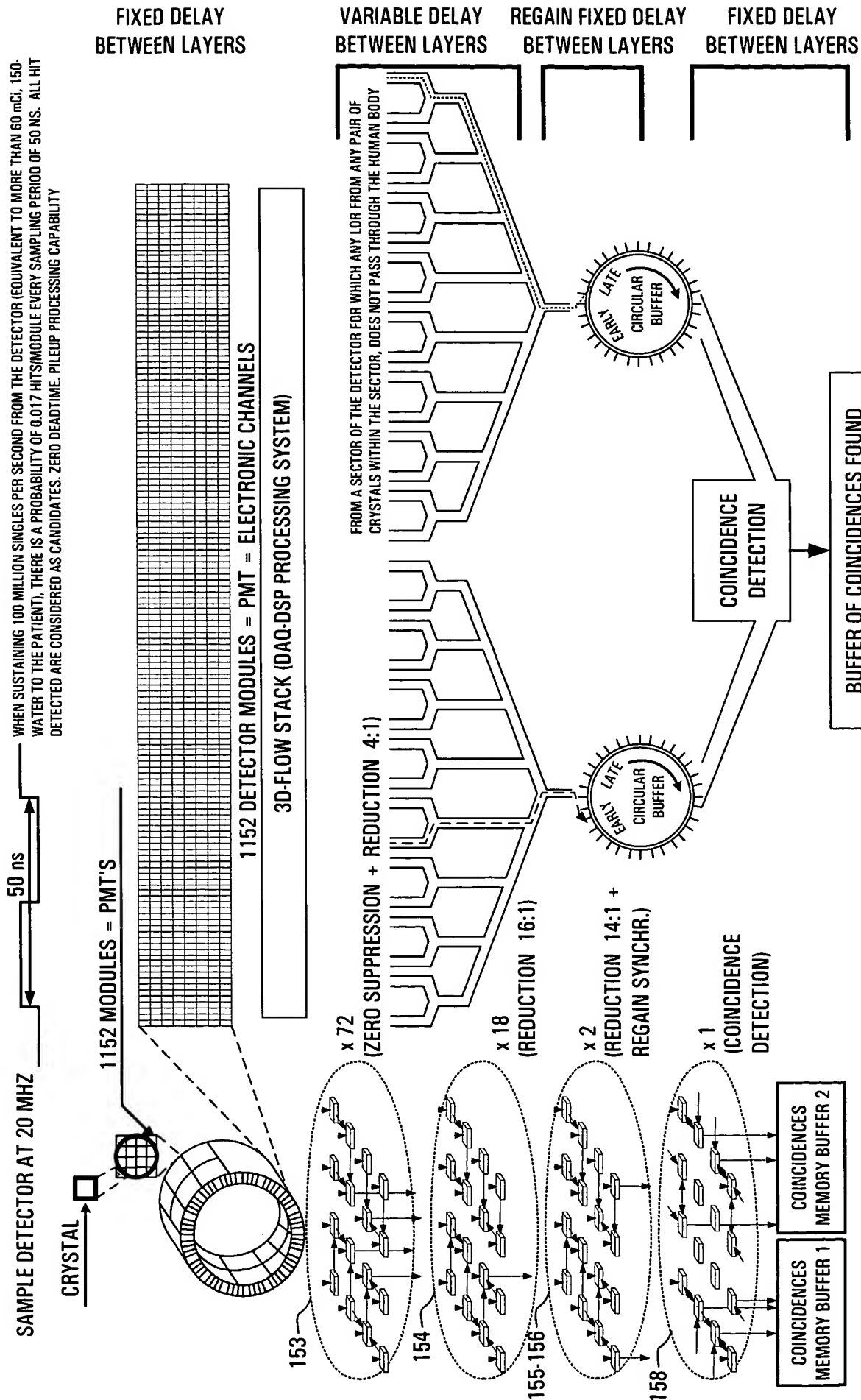


FIG. 6



NOT ALL LOR ARE CHECKED EVERY SAMPLE PERIOD AS IT WAS IN PREVIOUS PET DESIGNS (WHEN ABOUT 700 COMPARISONS WERE EXECUTED), ONLY THE CANDIDATES FOR A COINCIDENCE ARE COMPARED (6 COMPARISONS).

FIG. 7

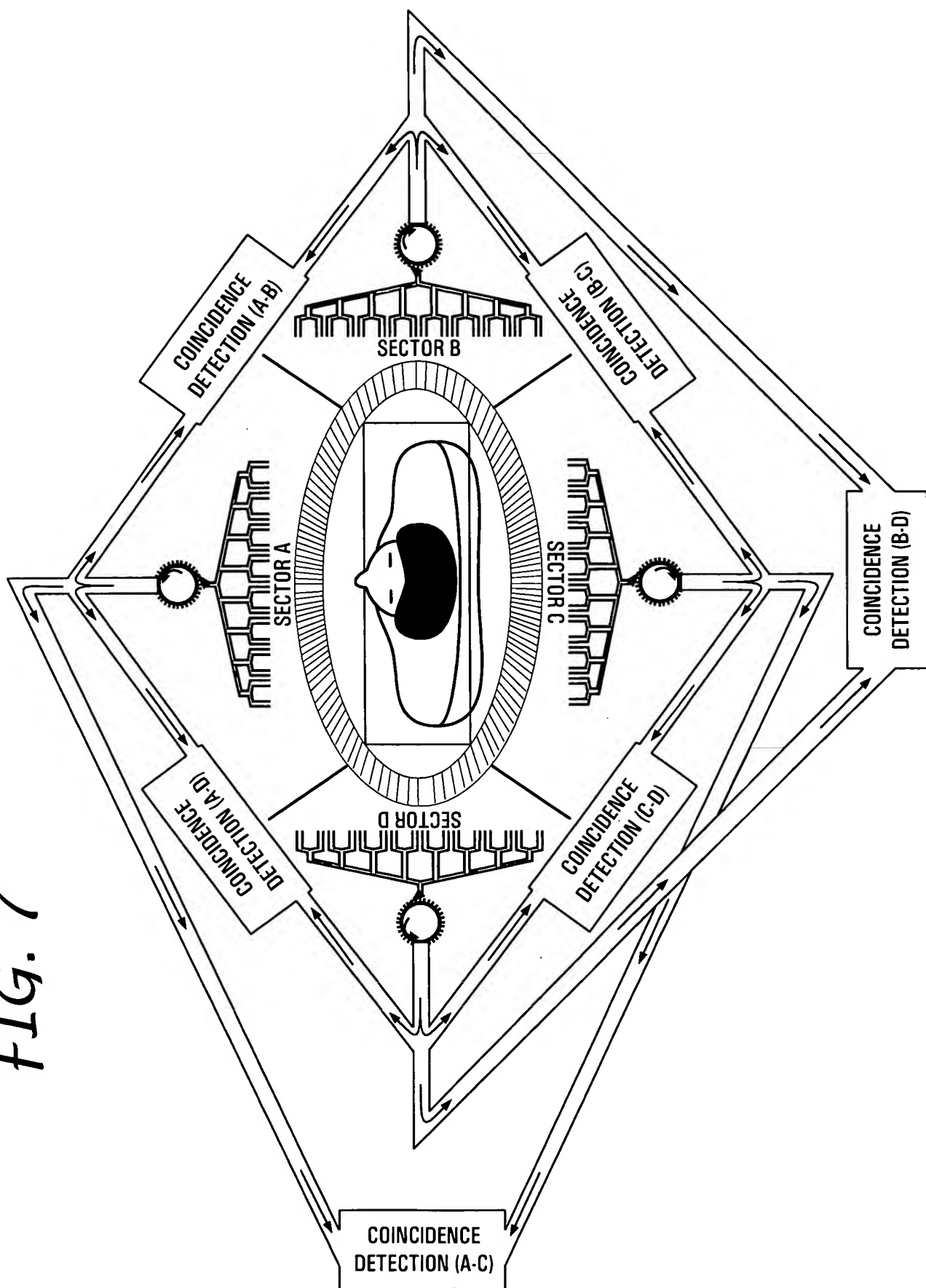
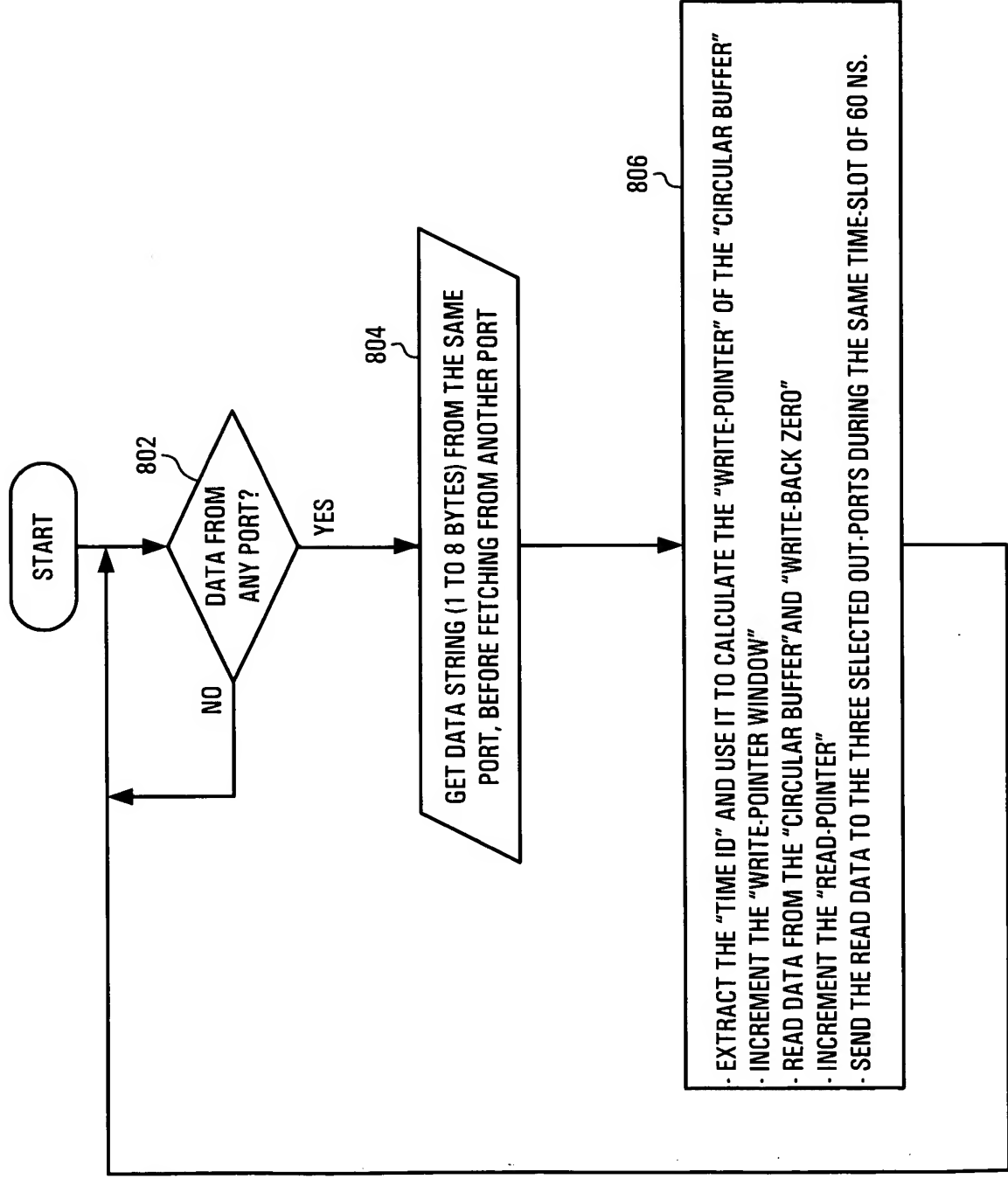
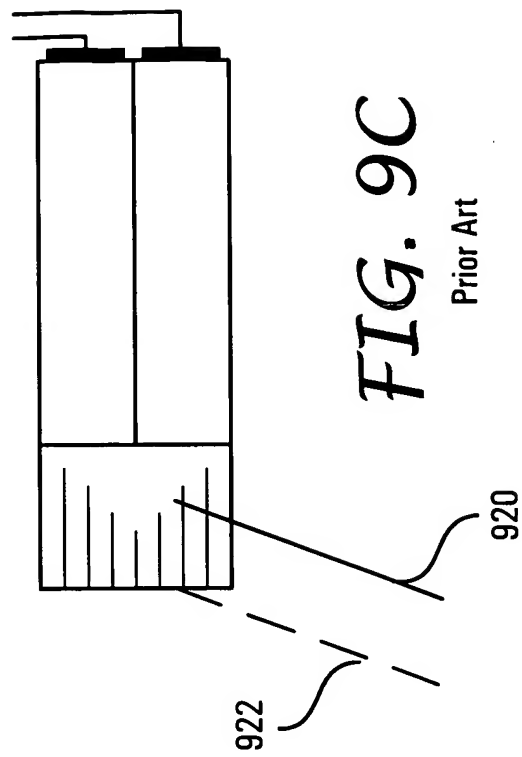
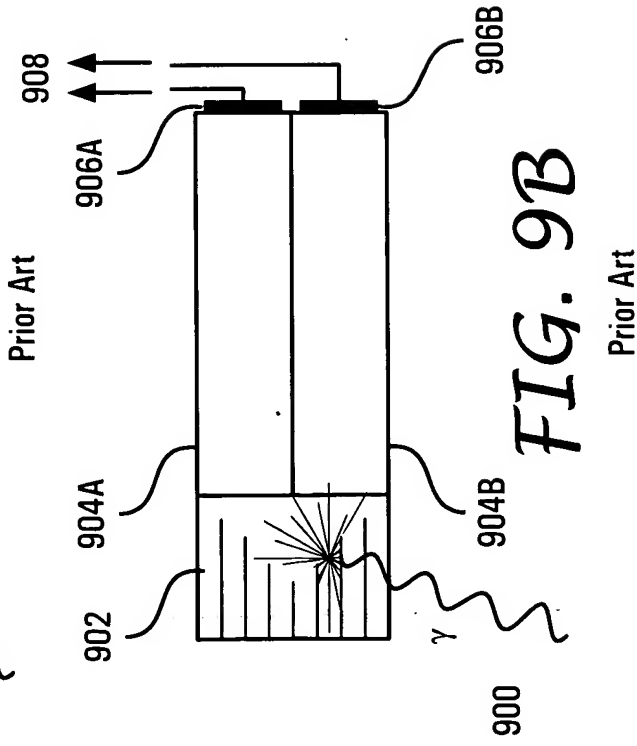
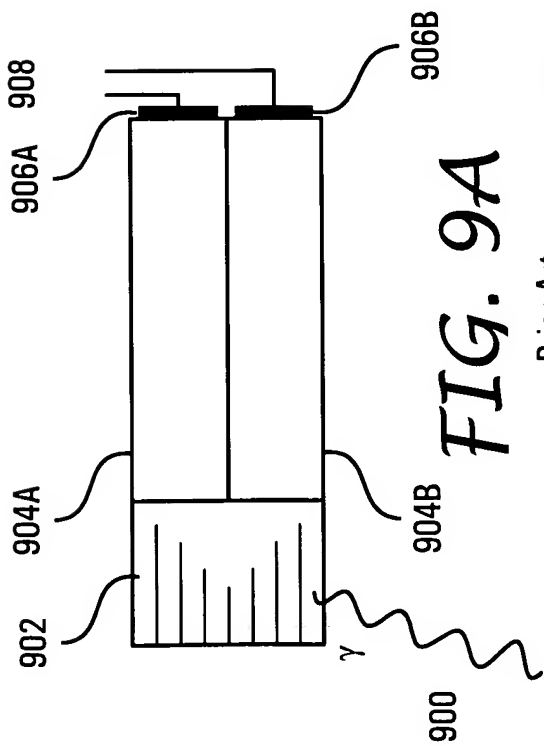


FIG. 8





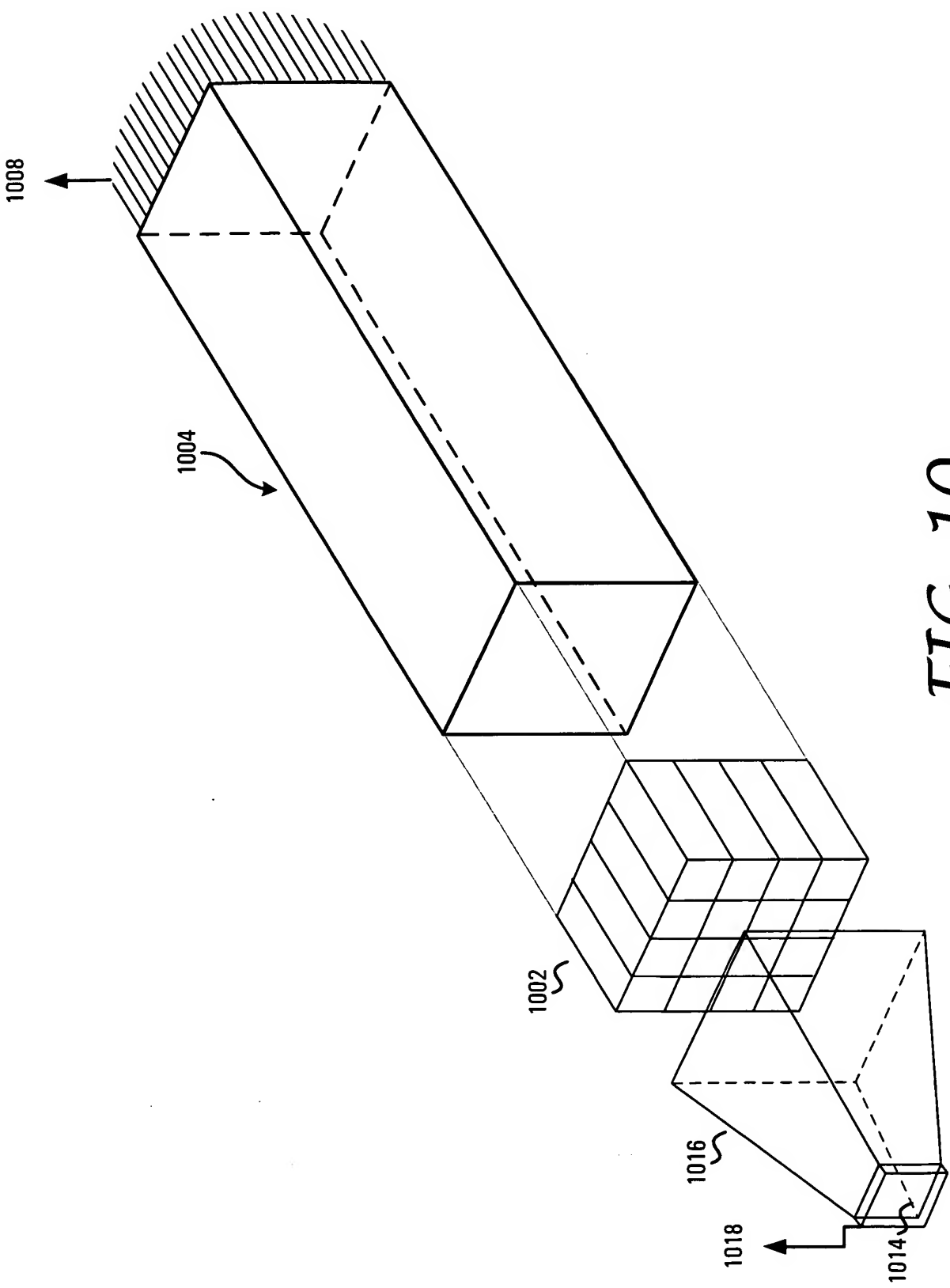


FIG. 10

